

No. 2.—DESCRIPTION OF THE DECIDUOUS PREMOLAR
OF *NOTOTHERIUM MITCHELLI*, OWEN.

In marsupials the dental series contains but one replacing tooth—the so-called “permanent premolar.” In many of the *Macropodidae* it replaces two teeth, the “milk premolar” and the “milk molar,” but as a rule it has but one predecessor, the “milk premolar.” The milk premolar of *Thylacynus* is developed and absorbed before the animal is out of the foetal stage, and, in the case of *Phascodomys*, the deciduous tooth is merely vestigial.

Our knowledge of the dentition of extinct forms is very incomplete; in regard to the *Diprotodontidae* the remarks of Lydekker in 1889,* “So far as we know at present there is no evidence of any tooth change or of the presence of a deciduous pm. 3 in either *Diprotodon* or *Nototherium*,” do not appear to have been questioned or modified by more recent discoveries.

A specimen from the Mammoth Cave, consisting of a small fragment of the right side of the skull of a young individual and including the facial portion from the orbit to the socket of the incisor with the dentition and the anterior portion of the palate is, therefore, of particular interest, because of the light it throws upon the dentition.

The teeth present consist of the deciduous premolar in position but showing no trace of wear, and the posterior molariform tooth, still in its formative cavity, but evidently ready to emerge and take its place in the tooth line.

On account of the swollen state of the maxilla below the infra-orbital foramen, an opening was made in the wall of the socket of the incisor disclosing the presence of an imperfectly formed successor to the milk-premolar. There is therefore no doubt that *Nototherium*, like the majority of the marsupials, possessed a deciduous premolar and a replacing tooth.

The deciduous tooth is triangular, with a prominent crest externally and a well marked tubercle on a distinct talon at the postero-internal angle of the crown; this tubercle is connected with the cusp by an almost obsolete bridge across the floor of the intervening valley, which is closed internally and posteriorly by a strong sinuous cingulum. This ridge ascends the outer cusp anteriorly, gradually merging into the crest, but posteriorly it rises up the hind edge of the cusp forming a distinct prominence in line with the cusp but separated from it by a well marked notch. The highest part of the

* Annals and Magazine of Nat. Hist. (6), Vol. III., No. 14; Feb. 1889, p. 151.

crest is just in front of this notch; from this point the cutting edge slopes convexly downwards until it merges into the cingulum at the anterior angle of the tooth.

The tooth appears to be implanted by two roots, a very small one at the anterior angle and a very massive one posteriorly.

The following measurements have been taken:—

Antero-posterior dimensions	..	..	10.5 m/m
External face of crown	..	..	10.5 m/m
Internal face of crown	..	..	11 m/m
Posterior face of crown	..	..	11 m/m
